The Kasparov-World Game

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vi) 12...Kc8?[-12] 13 Rh7 (Ka5/Ra2/h1/h3/h4/h6[+12])
vii) 17...Kb8?[-5] 18 Sd7+ (Rb2+[7]) etc.
viii) Against ...Qg3+. Two lengthening duals: 18 Kc6[+2] Qe8+, and 18 Kd5[+8], to which the best response is Kb8 19 Kc6 Qe8+ 20 Kb6 Qg8 and we are back at move 12, though Black may also play 18...Qe8[-6].
ix) 19...Kb8?[-2] 20 Sd7+ (Rb4/g4[+4]) Kc8 21 Rc4+ Kb7 22 Rb4+ Kc6 23 Rb6+ Kd5 24 Sf6+. But after White's next Black is forced to play ...Kb8 after all.
x) Or 21...Kb7?[-1], Ka7/a8?[-2] reaching the same positions a move or two sooner.
xi) 23...Ka6?[-2] 24 Sb8+ and 25 Sc6+ explains why wR must be on the 3rd or 4th rank. We already saw 23...Kc6?[-2] 24 Rb6+.
xii) Kb8[-5] 8 Sd7+

THE KASPAROV-WORLD GAME
Guy Haworth and Peter Karrer

Kasparov-World, initiated by Microsoft and also sponsored by First USA, was a novel correspondence game played on the World Wide Web at one ply per day. The *World Team* was led by moderator Danny King and four, talented young coaches: GM Etienne Bacrot (France, 16), FM Florin Felecan (USA, 19), Irina Krush (USA, 15) and WIM Elisabeth Pähtz (Germany, 14). They each independently nominated a move and the *World Team* made its choice by democratic vote.
This was the first time that any group had attempted to form on the Web and then solve shared problems against fixed, short-term deadlines. The author first became involved in his role as a Web consultant, observing the dynamics and effectiveness of the group. These are fully described, together with observations on the technology contribution, in Marko *et al.*
To move swiftly to the endgame, suffice it to say that the *World Team* far exceeded initial expectations and reached move 51 and **4000.12** position *K1* which is now a computer target. Black is fighting for a draw, and without the Black Pawns *has* a draw. This had been foreseen for three weeks, during which time the *World Team* had requested an **8000.00** endgame table (EGT). To everyone's surprise, two EGTs were created within days, independently drawn up to the Distance-to-Conversion (DTC) and Mate (DTM) metrics respectively (Nalimov *et al*). Elkies and Stiller provided information to confirm that the two new EGTs agreed with Stiller's EGT. *World Team* thoughts turned to EGTs for **5000.01** and **4000.11**.

K1

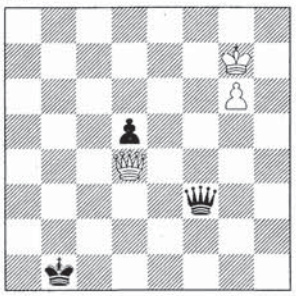
g6b1 4000.12 after 50...d1=Q

K2

f6a1 4000.11 after 55.Qxb4

Serious analysts in the *World Team*, including FIDE World Champion Khalifman, had carried the vote thus far. However, the analysts' 51...Ka1 and 52...Kc1 lost out to 51...b5 and 52...Kb2, seriously increasing Black's difficulties. The game continued to **4000.11** positions *K2* and *K3*.
At this point, the technology that had empowered suddenly depowered, a familiar risk in life today. Krush's essential recommendation of 58...Qf5, was delayed by e-mail glitches and then not displayed to the voters by Microsoft. They saw only one coach for 58...Qf5 against two for 58...Qe4 which duly won. The *World Team* bulletin board already knew this was a loss and the rest is history.
To general consternation, Microsoft refused to rerun the vote, the media ran the story and the *World Team* soon resigned.

K3



g7b1 4000.11 after 58.g6

Post-hoc analysis proceeded by hand and by computer. Peter Karrer (2000), in a feat of programming, which the first author salutes, produced subset-EGTs for KQQKQP≈ and KQPKQP≈, the '≈' denoting a variant of chess with promotion option *P=Q* only. Karrer (2000) shows that only 0.09% of KQQKQP(d2) positions change value if P=S is allowed as well as P=Q. One might conjecture that the % is much less with the P on d3, d4.... Practical players, if not theorists, will accept information this close to perfection. Peter's *Distance to Mate* (DTM) KQPKQP≈ lines are given here

with that caveat and in that spirit. Below, we list and annotate:
a) the game as played,
b) an M-optimal line (minimaxing DTM) after Black's resignation,
c) a 58...Qf5 line, which Ken Regan believes, from Kasparov's immediate post-game analysis, was the most likely continuation, and
d) the 'endgame that got away': fitting, M-optimal but imaginary.
58...Qf5 still leads to a well deserved but much deeper win: **4000.10** arrives on move 84, not move 68. Kasparov described this game as "phenomenal ... the most complex in chess history."

This is an absorbing QP-finale for endgame enthusiasts. They will continue to benefit from the work of the web-enabled teams formed during the game. New 6-man tables and evaluation services are available from Nalimov, Thompson and Wirth as in the references. The author and others are contemplating ancillary projects and data-mining software to help find the finest gems to present in attractive problem and study settings.

Notation:
' *unique M-optimal move*,
" *literally-unique value-preserving move*;
[...] *equi-optimal move(s)*,
^{n} *one of n unlisted equi-optimals*,
^{v} *value changing move*,
-d lost depth of d moves
and {...} *commentary*.

a) with Krush/Regan annotation.
G. Kasparov -World: The World Wide Web, 21st June - 22nd October, 1999, ECO B52, 1-0.
1.e4 c5 2.Sf3 d6 3.Bb5+ Bd7 4.Bxd7+ Qxd7 5.c4 Sc6 6.Sc3 Sf6 7.0-0 g6 8.d4 cxd4 9.Sxd4 Bg7 10.Sde2 Qe6! 11.Sd5! Qxe4 12.Sc7+ Kd7 13.Sxa8 Qxc4 14.Sb6+ axb6 15.Sc3! Ra8 16.a4! Se4! 17.Sxe4 Qxe4 18.Qb3 f5! 19.Bg5 Qb4! 20.Qf7 Be5 21.h3! Rxa4! 22.Rxa4 Qxa4 23.Qxh7 Bxb2 24.Qxg6 Qe4 25.Qf7 Bd4 26.Qb3 f4! 27.Qf7 Be5 28.h4 b5 29.h5 Qc4! 30.Qf5+ Qe6 31.Qxe6+ Kxe6 32.g3 fxg3 33.fxg3 b4! 34.Bf4!? Bd4+ 35.Kh1! b3 36.g4 Kd5! 37.g5 e6! 38.h6!? Se7 39.Rd1 e5 40.Be3 Kc4 41.Bxd4 exd4 42.Kg2 b2 43.Kf3 Kc3 44.h7 Sg6 45.Ke4 Kc2 46.Rh1 d3 47.Kf5 b1=Q 48.Rxb1 Kxb1 49.Kxg6 d2 50.h8=Q d1=Q {*K1*, **4000.12**} 51.Qh7! b5? 52.Kf6+ Kb2? 53.Qh2+ Ka1 54.Qf4 b4?? {losing in theory and in practice: Qd5 was required} 55.Qxb4 {*K2*, **4000.11**} Qf3+ 56.Kg7" d5 57.Qd4+!" Kb1' 58.g6" {*K3*} Qe4? [Qf5'] *-39* 59.Qg1+' Kb2 60.Qf2+' Kc1 [Ka1'] *-8* 61.Kf6' d4' 62.g7' 1-0.
b) 62.g7' {and now} Qc6+' 63.Kg5' Qd5+' 64.Qf5' Qg2+' 65.Qg4' Qd5+' 66.Kf4' Qg8' 67.Qg1+' Kc2' 68.Qxd4' {**4000.10**} 68...Qf7+' 69.Kg3' Qb3+' 70.Kh4 [Kg2] Qg8' 71.Qf6 [Qg4] Kb1[3] 72.Qg6+' Ka1[4] 73.Kh3 [Kg3] Ka2 [Kb2] 74.Kh2 [Kg2] Kb2[3] 75.Qg4 [Kg1] Qb8+[8] 76.Qg3' Qg8' 77.Kg1' Kb1[3] 78.Qg2' Ka1

[Kc1] 79.Qf1+' Kb2' 80.Qf8' Qa2[6] 81. g8=Q [Qf2+] {**5000**} Qb1+' 82.Qf1' Qxf1+' 83.Kxf1' {**1000**} Kc3' 84.Qe6[4] Kb2[5] 85.Qc6[5] Ka1[5] 86.Qb7[5] Ka2° 87.Ke2' Ka1 [Ka3] 88.Kd3[3] Ka2° 89.Kc3[2] Ka1[2] 90.Qb2#' 1-0.

c) Ken Regan's conjectured 'most likely 58...Qf5 game continuation'. **58...Qf5'** 59.Kh6' Qe6' 60.Qg1+' Kb2 [Ka2, Kc2] 61.Qf2+' Kb1' 62.Qd4' Kc2! *-6 (62...Ka2' 63.Kg5' Qe7+' 64.Qf6' Qe3+' 65.Qf4" Qg1+' 66.Kf6' Qb6+' 67.Kg7! -7 Qe6' 68.Qf6! -10 seemed dangerous for Black)* 63.Kg5' Qe7+' 64.Qf6?! *-12* {already on the slippery slope} Qe3+' 65.Kg4?' (65. Qf4', 65. Kh5) Qg1+"! 66.Kf5[5] d4" 67.g7[18] d3" 68.Qc6+[15] Kd2" 69. Qg6[17] Qc5+" 70.Ke4[5] Kc1"!! 71.g8=Q[13] d2" {no checks and 72. Qg5/Qh6 leaves Bl. with a perpetual check} ½-½!

d) 58. g6" {and now} Qf5' 59.Kh6' Qe6' 60.Qg1+' Ka2 [Kb2, Kc2] 61.Qf2+' Kb1' 62.Qd4' Ka2' 63.Kg5' Qe7+' 64.Qf6' Qe3+' 65.Qf4" Qg1+' 66.Kf6' Qb6+' 67.Kf7' Qb7+' 68.Ke6' Qc8+' 69.Kf6' Qd8+' 70.Kf5' Qc8+' 71.Kg5' Qc3' 72.Qh2+' Ka1' 73.Qe2' Kb1' 74.Qf2' Qc1+' 75.Kg4' Qc3' 76.Qf1+' Kb2 [Kc2] 77.Kf5' Qc7' 78.Qe2+' Kb1' 79.Qd3+' Ka2' 80.Qa6+' Kb3' 81.Qe6' Ka2' 82.Qf7' Qc2+' 83.Ke6" Qe2+' 84.Kxd5' {**4000.10**} Ka3' 85.Qa7+' Kb3' 86.Qb6+' Ka3' 87.Qd6+' Ka4' 88.Qd7+ [Qc6+] Ka3' 89.g7' Qd1+' 90.Kc6' Qa4+' 91.Kc7' Qa7+' 92.Kd8' Qb8+' 93.Ke7' Qe5+' 94.Kf7' Qf4+' 95.Kg6' Qg3+' 96.Kf6' Qh4+' 97.Ke5' Qg3+ [Qg5+] 98.Kd4' Qg1+ [Qf2+, Qf4+, Qh4+] 99.Kc4' Qc1+' 100.Kb5' Qb2+' 101.Kc6 [Ka6] Qc2+ [Qc3+] 102.Kb7 [Kb6] Qb3+ [Qe4+] 103.Ka6' {a 14 move K-walk} Qg8' 104.Qd4' Ka2' 105.Kb5' Qe8+' 106.Kb4' Qe1+' 107.Kc4' Qe2+' 108.Kd5' Qb5+' 109.Ke6' Qe8+' 110.Kf6' Qc6+' 111.Ke5' Qe8+' 112.Kf4' Qf7+' 113.Kg3 [Ke3] Qg6+' 114.Kh3[3] Qf5+[5] 115.Kh4 [Kg2] {an 11 move K-walk} Qf7 [Qh7+] 116.Qd2+' Ka1[3] 117.Qe1+ [Qd1+] Ka2' 118.Qe2+' Kb3' 119.Qg4' Qg8' 120.Kh3 [Kg3] Ka3 [Kc3] 121.Kg3' Ka2[3] 122.Kg2 [Kf2] Qd5+[7] 123.Kg1' Qc5+ [Qg8] 124.Kh1" Qc1+' 125.Qg1" Qh6+' 126.Qh2+" Qxh2+' 127.Kxh2° {**0000.10**} Ka3[2] 128.g8=Q[4] {**1000**} Kb4' 129.Qe8[11] Kb3[4] 130.Qc6[5] Ka2[4] 131.Qb7[6] {and mate on m137} 1-0.

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SIX-MAN ORACLE SURVEY, 1

Guy Haworth

This is a list in GBR order of existing 6-man endgame tables (EGTs) created by Nalimov (DTM, Distance to Mate) or Thompson (DTC, Distance to Conversion). An [s] indicates a past result by Stiller only. *max ww* denotes the maximum depth of wtm 1-0 positions in the endgame; max *bl* denotes the maximum depth of btm 1-0 positions. *max ww* and *max bl* are listed for both the DTM and DTC metrics.

Note the counter-intuitive relative values of DTM's *max ww* and *max bl* where these are in italics and the GBR code is marked [nb]. It is not always true that *bl* = *ww* or *ww*-1 as for DTC: these figures may not correspond to consecutive positions. For example, **1100** has DTM *max ww* = 6 but {Ka1 Qe6 Rf7 / Ke5 b}sets DTM *max bl* = 16: 1...Kxe6 **{0100}**. The first move converts to a maximal subgame position, always the case where the DTM figures are highlighted here.

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